

The Knowledge Bank at The Ohio State University
Ohio State Engineer

Title: Back Matter

Issue Date: May-1929

Publisher: Ohio State University, College of Engineering

Citation: Ohio State Engineer, vol. 12, no. 7 (May, 1929), 29-36.

URI: <http://hdl.handle.net/1811/34791>

Appears in Collections: [Ohio State Engineer: Volume 12, no. 7 \(May, 1929\)](#)



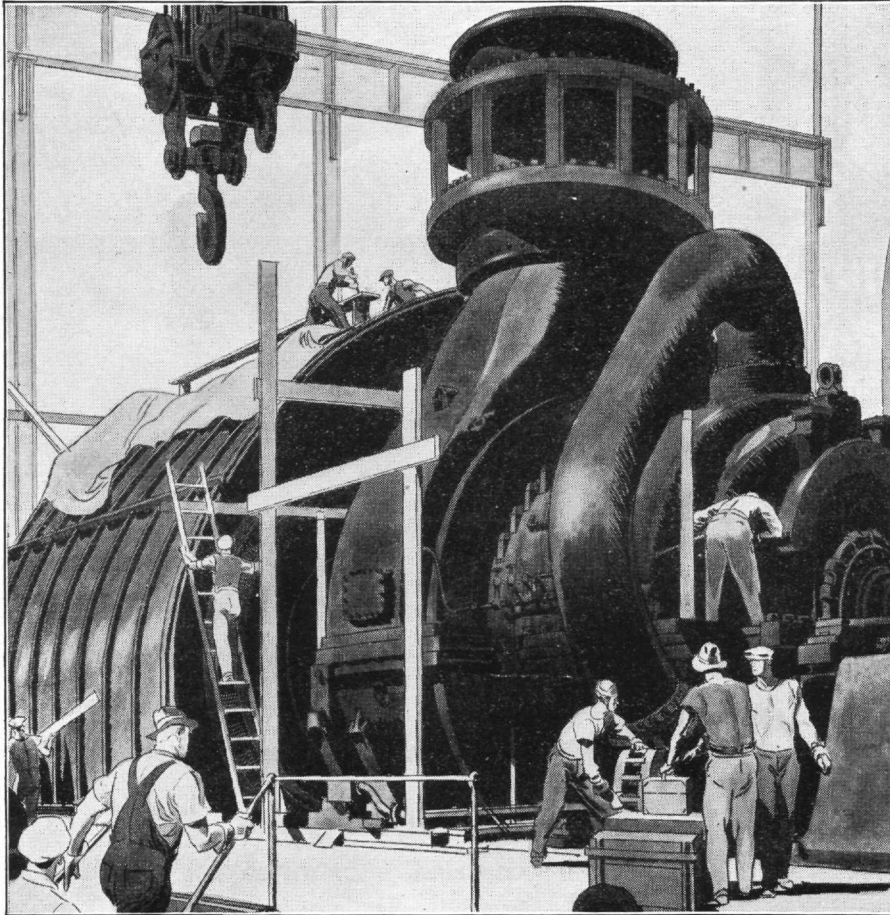
C. W. GUTH
Generator Installation
Design
Colorado School of
Mines, '22



B. A. ROSE
Generator Design
Kansas State
Agriculture College, '26



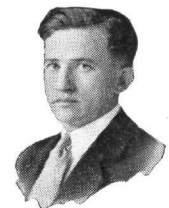
F. L. TARLETON
Control Engineering
North Carolina
State College, '26



V. O. CLEMENTS
Generator Sales
Kansas State
Agriculture College, '24



P. L. FETZER
Mgr. Condenser Sales
Kansas State
College, '20



C. E. LANN
Control Engineering
Louisiana State
University, '25

YOUNGER COLLEGE MEN ON RECENT WESTINGHOUSE JOBS

The Hellgate Turbine-Generator

Where do young college men get in a large industrial organization? Have they opportunity to exercise creative talent? Is individual work recognized?

TO KEEP pace with the surging life of greater New York, the United Electric Light & Power Company has recently enlarged its plant capacity by installing the largest steam turbine-generator in the world.

Capacity great enough to light a million homes is built into this one gigantic Westinghouse machine. If its condenser tubes were laid end to end in a straight line they would extend more than 75 miles. The hurricane of steam rushing through its whirling blades converts the heat from two thousand tons of coal a

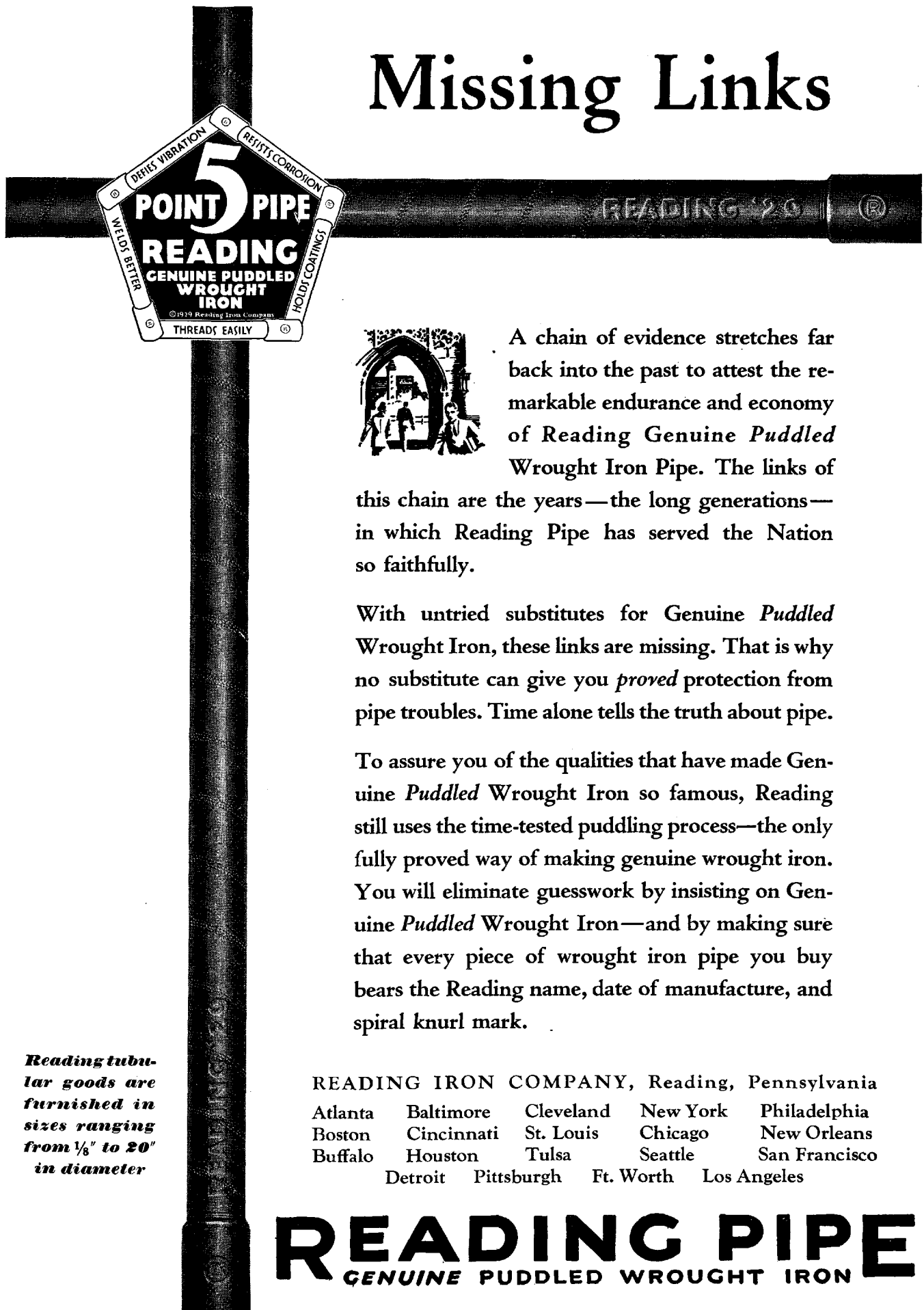
day into light and movement for the world's greatest metropolis.

Only an organization of the size and resources of Westinghouse can undertake the building of equipment for such huge responsibilities. To young men of enterprise and genius Westinghouse offers great attractions because it daily provides opportunities that are rare in smaller organizations.

Westinghouse




Missing Links



5 POINT PIPE
READING
GENUINE PUDDLED
WROUGHT IRON
© 1929 Reading Iron Company
THREADS EASILY
DEFIES VIBRATION
RESISTS CORROSION
WELDED BETTER
HOLDS COATINGS

READING 20 ®



A chain of evidence stretches far back into the past to attest the remarkable endurance and economy of Reading Genuine *Puddled* Wrought Iron Pipe. The links of this chain are the years—the long generations—in which Reading Pipe has served the Nation so faithfully.

With untried substitutes for Genuine *Puddled* Wrought Iron, these links are missing. That is why no substitute can give you *proved* protection from pipe troubles. Time alone tells the truth about pipe.

To assure you of the qualities that have made Genuine *Puddled* Wrought Iron so famous, Reading still uses the time-tested puddling process—the only fully proved way of making genuine wrought iron. You will eliminate guesswork by insisting on Genuine *Puddled* Wrought Iron—and by making sure that every piece of wrought iron pipe you buy bears the Reading name, date of manufacture, and spiral knurl mark.

READING IRON COMPANY, Reading, Pennsylvania

Atlanta	Baltimore	Cleveland	New York	Philadelphia
Boston	Cincinnati	St. Louis	Chicago	New Orleans
Buffalo	Houston	Tulsa	Seattle	San Francisco
	Detroit	Pittsburgh	Ft. Worth	Los Angeles

READING PIPE
GENUINE PUDDLED WROUGHT IRON

Reading tubular goods are furnished in sizes ranging from 1/8" to 20" in diameter



Science *Knocks Out Waste*

It is a fight to the finish—Industry vs. Waste—and Industry wants men scientifically trained to win. So it is that Timken Bearings and their practical application are an all-important part of every course of study.

For power relieved from friction by Timken Bearings, puts a powerful punch into production.

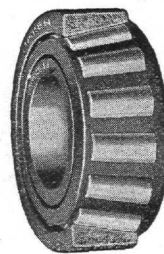
—And down goes *Waste* for the count. Timken Bearings put fighting machines into every field, free from high maintenance, premature wear, misalignment and breakdowns.

With their compact radial-thrust ability, saving of power and lubri-

cant, increase and betterment of production, extension of machine life—Timken Bearings reach into every phase of Industry and express today's demand in modern machine design.

Exclusive results are found in this exclusive Timken combination of features—Timken tapered construction, Timken *POSITIVELY ALIGNED ROLLS* and Timken electric furnace steel.

Wherever wheels and shafts turn "Timken-Equipped" champions Industry's cause against Waste in every class of service from feather-weight to heavy-weight.

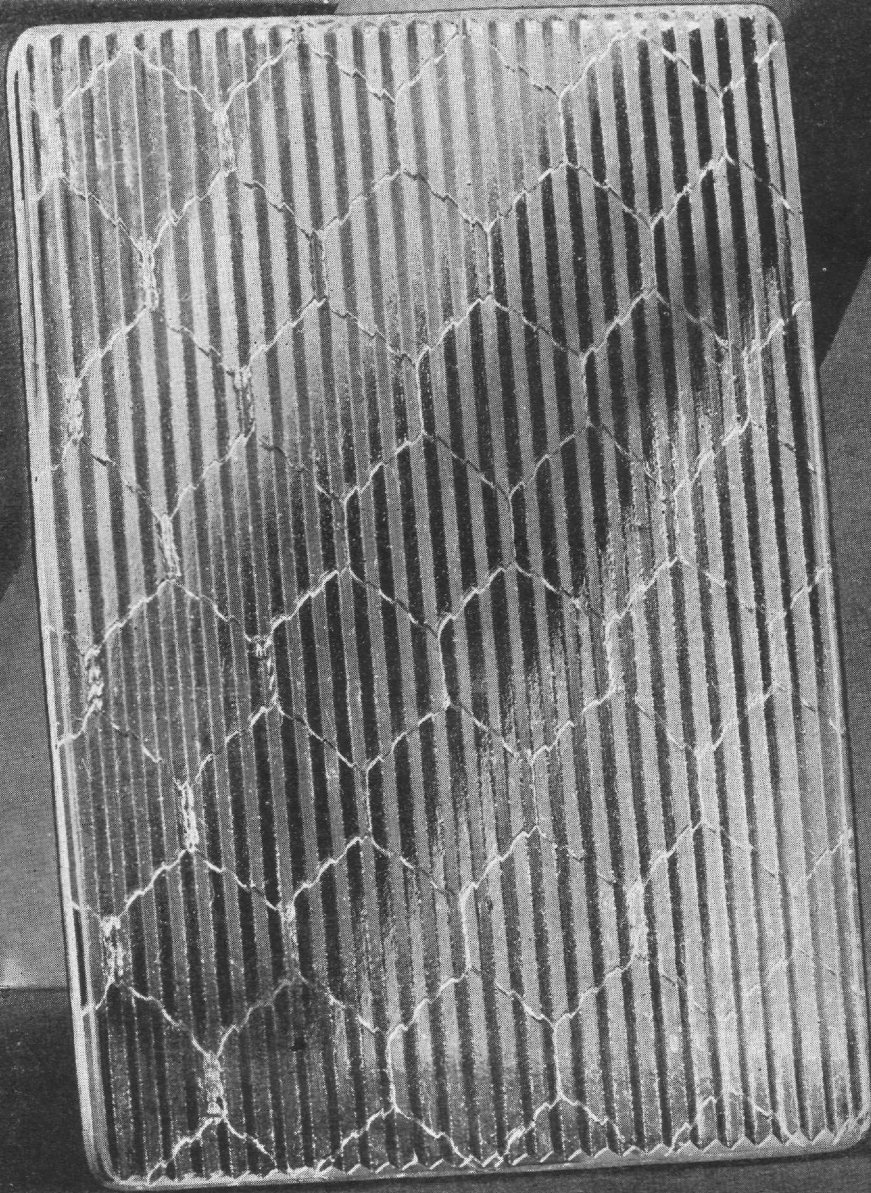


THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

TIMKEN *Tapered Roller* **BEARINGS**

MAY, 1929

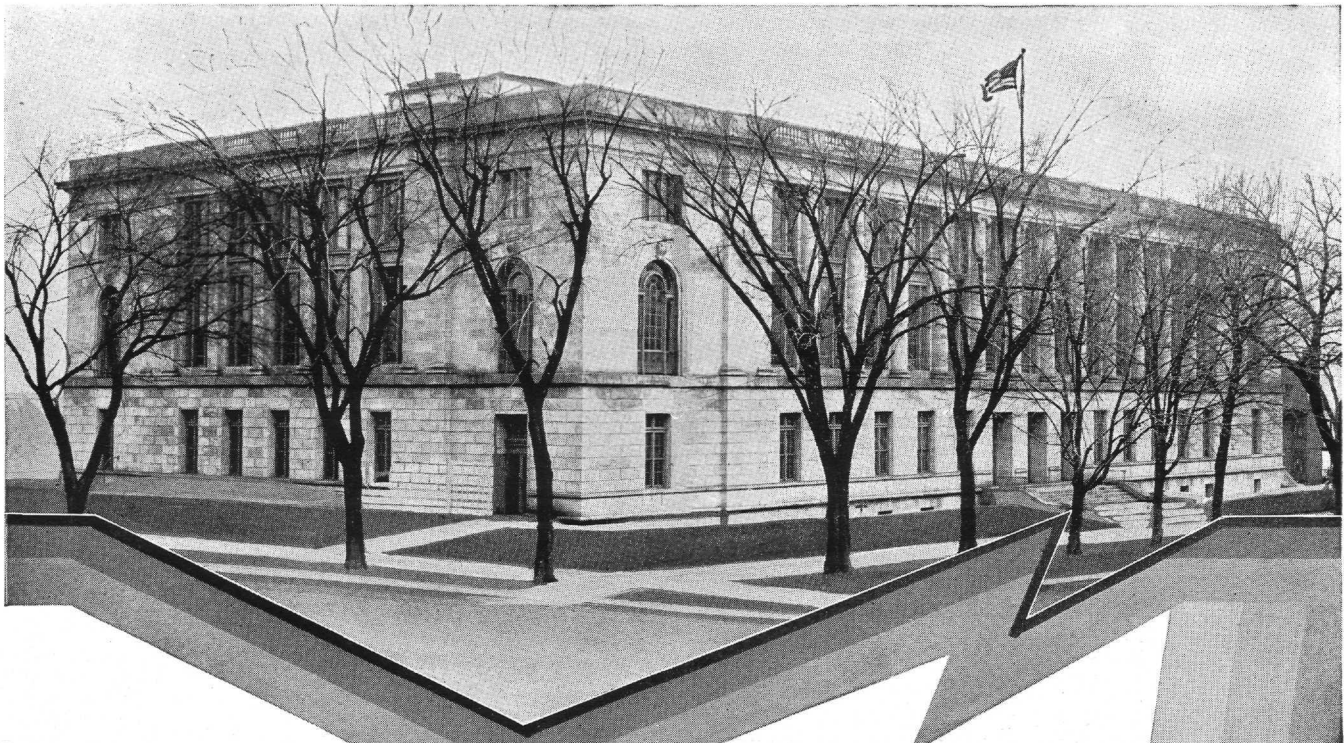
SKYLIGHT



PENTECOR . . . is a brilliant pattern, a combination of rib and prism specially made for use in skylights. It is easily installed and easily cleaned and may be obtained from glass distributors everywhere. (Plain or Wire Glass). Send for samples.

MISSISSIPPI WIRE GLASS CO. 220 FIFTH AVE. NEW YORK

MAY, 1929



Koehring-Mixed Foundation for Federal Building

Probably one of the most interesting and attractive of the federal buildings erected during the last year is the United States Post Office and Court House at Madison, Wisconsin. In addition it is one of the first in the building program resumed since the World War.

Situated in the shadow of the state capitol and only a few hundred feet from Lake Monona, one of the four lakes which surround Madison, the three-story building of Bedford stone has an ideal setting.

Employing the latest methods in the interior transfer of mails the Post Office department arranged the rooms, conveying machinery and platforms to bring about greater ease and speed in the handling of all classes of mail.

In the main lobby, marble slabs cover the walls from the floor to a height of eight feet. Quarter-sawed oak is the interior finish throughout the building.

Despite other unique features found in the Madison Post Office, its foundation of dominant strength concrete is similar to that of other well-known building projects throughout the world — concrete mixed by a Koehring.

The ingredients of concrete are the same in all cases but the Koehring re-mixing action — a fundamental principle of Koehring concrete mixers and pavers — coats every particle of sand and gravel with cement to produce dominant strength concrete.

KOEHRING COMPANY

MILWAUKEE, WISCONSIN

Manufacturers of

Pavers, Mixers—Gasoline Shovels, Pull Shovels, Cranes and Draglines

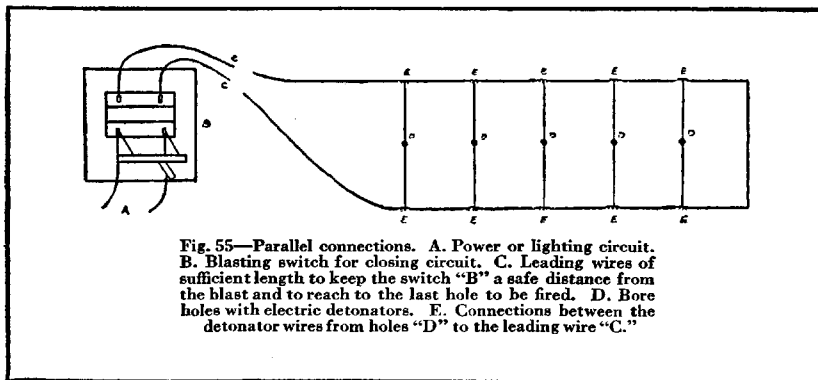
Division of National Equipment Corporation

"Concrete—Its Manufacture and Use," a complete treatise and handbook on present methods of preparing and handling portland cement concrete, will be gladly sent on request to engineering students, faculty members and others interested.



KOEHRING

Blasting Circuits



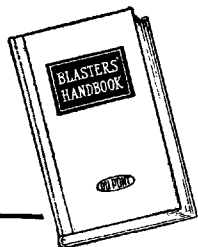
Lesson No. 3 of

BLASTERS' HANDBOOK

EVEN the way that wires are twisted together in making connections has an important bearing on proper use of explosives. Electric blasting is hedged around with most elaborate rules and precautions. There are series and parallel connections, parallel series and series parallel circuits. Blasting machines or power circuits for electric blasting are surrounded with great mystery.

In Chapter Three of the *Blasters' Handbook* this matter of blasting circuits is illustrated and comprehensively described. The selection and use of galvanometers, rheostats and blasting machines are explained. Tells how to prevent misfires, how to test a circuit, how to locate a break, how to use a resistance table and many other practical phases of blasting circuits.

The *Blasters' Handbook*, prepared originally for the use of du Pont field service men, is an extremely practical reference and study work. Leading technical institutions are using the *Blasters' Handbook* in their classrooms. Pocket size for your convenience.



This coupon will bring you a copy **FREE**.
Send it off **NOW**.



REG. U. S. PAT. OFF.

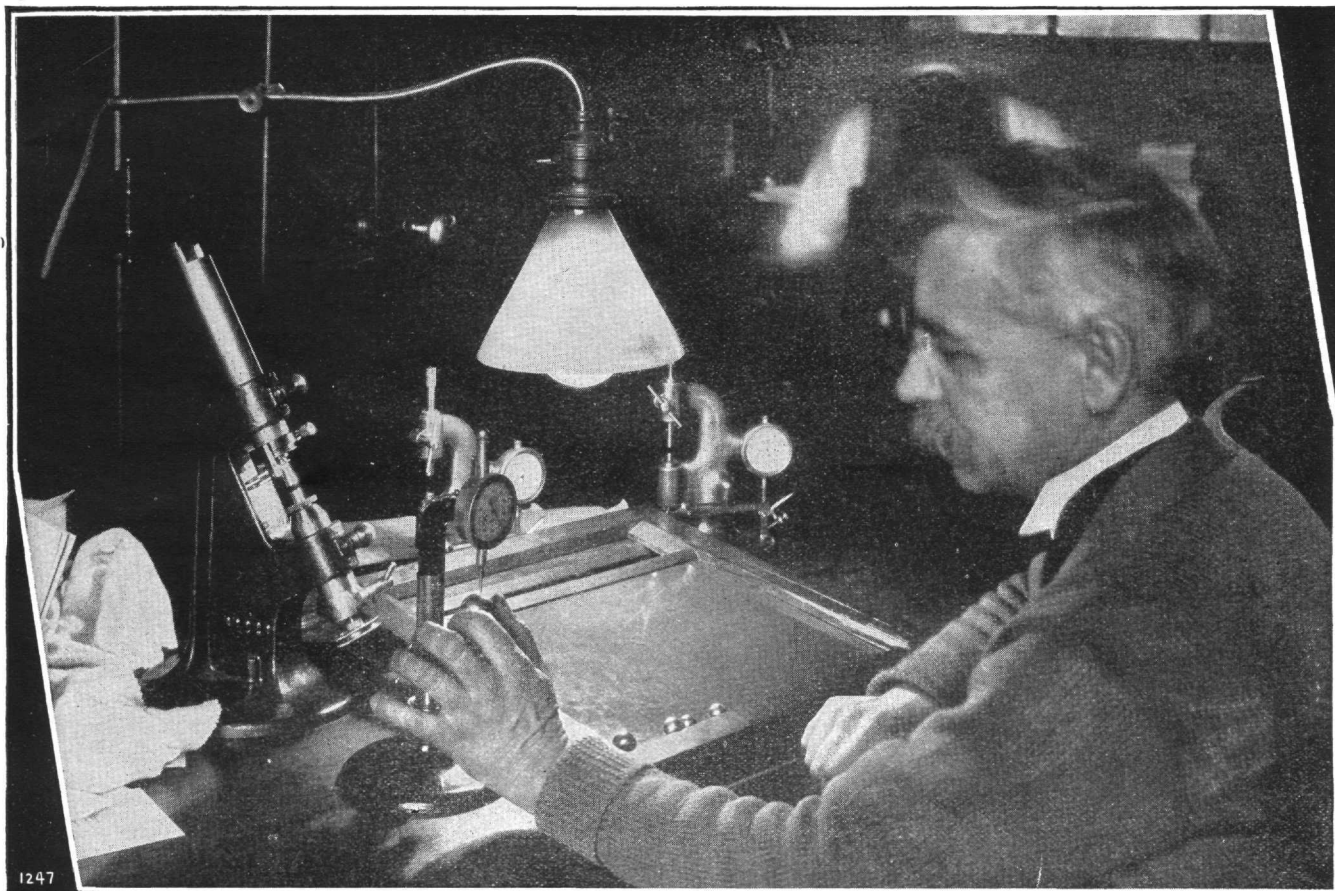
E. I. DU PONT DE NEMOURS & CO., INC., Explosives Department, Wilmington, Delaware.
Without cost or obligation on my part, please send me a copy of the "Blasters' Handbook."

O.S.E.—5

Name.....

Course of Study.....University? Institute?.....Class of.....

City.....State.....



$\frac{1}{10}$ th the Breadth of a Cat's Whisker Between "Go" and "No Go"

THE painstaking spirit of the medieval monk has been handed down to the New Departure organization—and intensified in transmission.

Modern science has augmented the will to intensive effort with the ability to control the unseen and to detect the slightest deviation from exact physical truth.

Since much of the superiority of the New Departure Ball Bearings over other anti-friction devices is due to its precision of dimension, contour, and fit, a most elaborate and efficient inspection system has been developed.

Not only is every tenth man in the plant an inspector, but an average of 16,200,000 separate and distinct decisions are made each business day as to the acceptance or rejection of bear-

ing parts. A single bearing, for instance, must be within proper limits on 90 separate counts to avoid rejection, with a tenth of a thousandth of an inch as a common unit of measurement.

In spite of these extraordinarily difficult standards set by New Departure engineers, New Departure special machinery—almost human in its operation; with *more* than human dependability . . . production proceeds with very little waste of time or material.

Is it any wonder therefore that New Departure Ball Bearings have the name of being the precision product of the world.

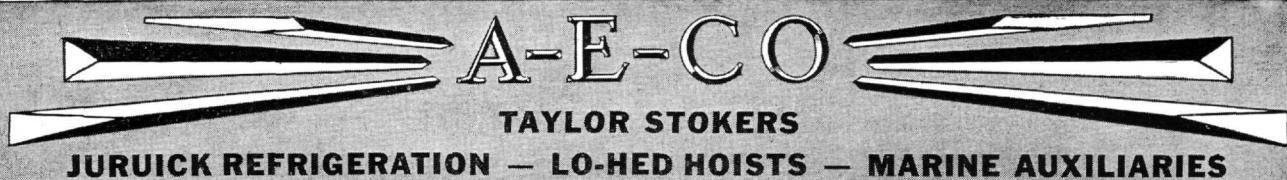
The New Departure Manufacturing Company, Bristol, Connecticut; Detroit, Chicago, San Francisco and London.



MAY, 1929

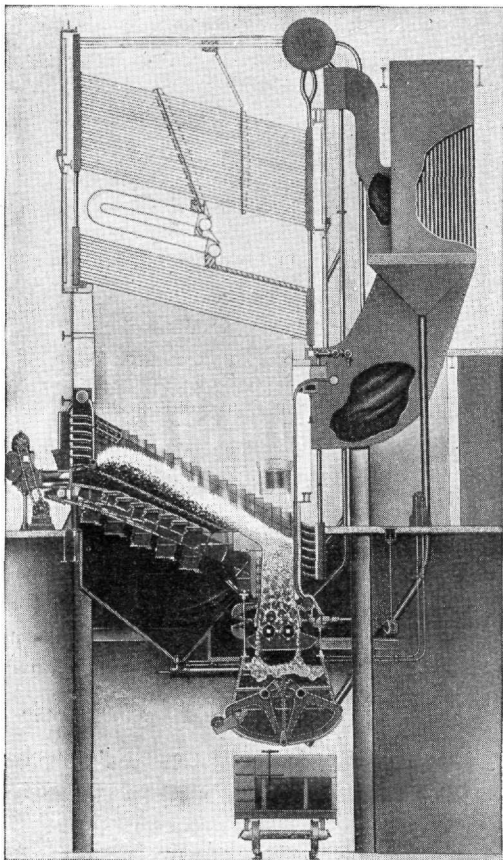
NEW DEPARTURE

BALL BEARINGS



TAYLOR SYSTEM

...of combustion



TAYLOR UNIT

ACCEPTED in this country and abroad as the modern, efficient, reliable method of burning coal in central stations and industrial power plants.

Chosen for big, new central stations to serve London, Berlin and Genoa.

Selected again for extensions or new stations by Boston Edison, Detroit Edison, Consumers' Power, Potomac Electric.

And in Industry, by such progressive organizations as Fisher Body, Celanese Corporation, International Harvester, Pennsylvania Railroad.

Such preference by the engineering profession can be based only on proved performance.

Taylor Stokers are built in sizes to fire any boiler. Units now under construction with capacities up to 600,000 lbs. of steam an hour... present designs capable of supplying 1,000,000 lbs. an hour.

They burn coal within a few points of the theoretical maximum... give maximum capacity in minimum building volume and floor space... permit the utilization of every advance in furnace design, including preheated air, water walls, economizers... can be banked or operated in a "live banked" condition at 25% of rating and in a few minutes go to 300% of rating or higher.

AMERICAN ENGINEERING COMPANY

2441 Aramingo Avenue

Philadelphia, Pa.

In Canada: Affiliated Engineering Companies, Ltd., Southam Bldg., Montreal

In Great Britain: Taylor Stoker Company, Bush House: Aldwych, W.C.2, London

AMERICAN ENGINEERING COMPANY, 2441 Aramingo Ave., Philadelphia, Pa.

Gentlemen: Please send me a copy of "Development of Recent Design of Stoker-fired Equipment."

Name—Please print it.....

Title.....

Company.....

Street Address.....

City.....

State.....



Surface Condensers

The high degree of efficiency that characterizes the I-R Surface Condenser is due, in part, to its several unique features of design. Among these features are its heart-shaped shell, external air coolers, and longitudinal steam control.

Actual performances under a wide range of conditions have proved that the I-R Condenser will carry approximately twice the average steam load per square foot of tube surface.

INGERSOLL-RAND CO.
11 Broadway, New York City

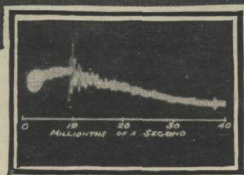


Ingersoll-Rand

Man's hand *upon the Lightning*



The cathode-ray oscillogram of the induced lightning surge

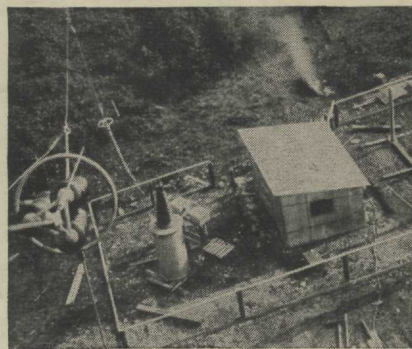


Back of every product bearing the G-E monogram, from an electric locomotive to the tiny motor that runs a sewing machine, is the basic scientific research for which the General Electric laboratories are famous. Both in the home and in industry this monogram carries the same assurance of electrical correctness and dependability.

NOT yet is the lightning tamed. But the hand of science reaches forth. Already a way has been found to make the lightning write its own record of this destructive force measured in millions of horsepower, which is still the greatest enemy of high-voltage transmission lines.

One such record is reproduced on this page. It was taken on the lines of the Pennsylvania Power and Light System by a cathode-ray oscillograph—a high-speed camera developed in the General Electric laboratories. The surge that was recorded measured 2,500,000 volts; the record showed that the lightning lasted 40 millionths of a second. From such data and measurements ultimately comes control of natural forces.

There are unlimited opportunities such as this for fundamental research in the application of electricity. Literally beyond price is its ultimate value to the electrical industry and to the public. Here is a challenge to stir the imagination of any engineer.



The special field laboratory which was used for the epoch-making experiment

95-669DH

JOIN US IN THE GENERAL ELECTRIC HOUR, BROADCAST EVERY SATURDAY AT 8 P.M., E.S.T. ON A NATION-WIDE N.B.C. CHAIN

GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, SCHENECTADY, NEW YORK